

AMENDMENTS TO THE CLAIMS

This listing of claims supercedes all prior versions in this application:

LISTING OF CLAIMS:

1. (Original) A process for producing a gasket for hard disc equipment which is integrated with a cover member by extruding a gasket material from an extrusion orifice of a three-dimensional automatic coating controlling apparatus onto the cover member and then curing the extruded gasket material, wherein a ratio (h/w) of a height (h) of the gasket to a line width (w) thereof on a joint surface between the gasket and the cover member is in the range of 0.8 to 3.0 in a 80% or more portion of the gasket.

2. (Original) The process according to claim 1, wherein the gasket material is extruded from the extrusion orifice of the three-dimensional automatic coating controlling apparatus to form a first-stage gasket, and then the gasket material is further extruded on the first-stage gasket to obtain a multi-stage gasket.

3. (Original) The process according to claim 2, wherein the first-stage gasket is cured after formation thereof but before formation of the subsequent-stage gasket.

4. (Original) The process according to claim 2, wherein the multi-stage gasket includes an n -stage gasket (n is an integer of 2 or more) having a length (w_n) of an axis thereof parallel with the cover member, and a $(n-1)$ -stage gasket having a length (w_{n-1})

of an axis thereof parallel with the cover member in which the lengths (w_n) and (w_{n-1}) satisfy a relationship represented by the formula: $w_{n-1} \geq w_n$ in a 80% or more portion of the gaskets.

5. (Original) The process according to claim 4, wherein the multi-stage gasket includes the n-stage gasket (n is an integer of 2 or more) having the length (w_n) of an axis thereof parallel with the cover member, and the (n-1)-stage gasket having the length (w_{n-1}) of an axis thereof parallel with the cover member in which the lengths (w_n) and (w_{n-1}) satisfy a relationship represented by the formula: $w_{n-1}/w_n > 1.1$.

6. (Original) The process according to claim 4, wherein the n-stage gasket (n is an integer of 2 or more) has any of a circular shape, a semi-circular shape, an elliptical shape and a semi-elliptical shape in cross section thereof, and a center of a cross section of the n-stage gasket is offset from a center of a cross section of the (n-1)-stage gasket outwardly relative to a center of the cover member.

7. (Original) The process according to claim 1, wherein the gasket material is cured while moving the extrusion orifice of the three-dimensional automatic coating controlling apparatus along a peripheral edge of the cover member, the extrusion orifice has a modified cross-sectional shape having a major axis and a minor axis and is rotated according to a moving direction thereof, and the minor axis of the extrusion orifice is always kept substantially perpendicular to the moving direction.

8. (Original) The process according to claim 7, wherein the extrusion orifice has a cross-sectional shape selected from ellipse, semi-ellipse formed by cutting a part of ellipse along a line parallel with the minor axis, rhombus, quadrangle and triangle, and is rotated according to the moving direction of the extrusion orifice such that a minor axis of ellipse, a straight line of semi-ellipse, a short diagonal line of rhombus, a short side of quadrangle or a base of triangle is always kept substantially perpendicular to the moving direction.

9. (Currently Amended) The process according to ~~any of claims 1 to 8~~ claim 1, wherein the three-dimensional automatic coating controlling apparatus includes an extruder selected from a pneumatic-type extruder, a mechanical ram press-type extruder and a mechanical plunger-type extruder, and a pressure used for extrusion of the gasket is in the range of 50 kPa to 1 MPa.

10. (Currently Amended) The process according to ~~any of claims 1 to 9~~ claim 1, wherein the gasket material has a viscosity of 50 to 1,000 Pa·s as measured at a molding temperature of the gasket and a shear rate of 1.0/s.

11. (Currently Amended) The process according to ~~any of claims 1 to 10~~ claim 1, wherein when a common logarithm (x) of a shear rate (s^{-1}) and a common logarithm (y) of a viscosity (Pa·s) of the gasket material is represented by the formula: $y = -ax + b$ wherein a and b are positive numbers, the a value is 0.3 or more.

12. (Currently Amended) The process according to ~~any of claims 1 to 11~~ claim 1, wherein the gasket material used has an intercept value of $(5 \text{ Pa})^{1/2}$ or more (corresponding to a yield value of 5 Pa or more) at which a line obtained by plotting ~~[[an]]~~ a one-second power of a shear rate (s^{-1}) and ~~[[an]]~~ a one-second power of a shear stress while varying the shear rate at a molding temperature thereof, intersects an axis of the one-second power of shear stress.

13. (Currently Amended) The process according to ~~any of claims 1 to 11~~ claim 1, wherein the gasket material used has an intercept value of $(30 \text{ Pa})^{1/2}$ or more (corresponding to a yield value of 30 Pa or more) on an axis of the one-second power of shear stress thereof.

14. (Currently Amended) The process according to ~~any of claims 1 to 11~~ claim 1, wherein the gasket material used has an intercept value of $(70 \text{ Pa})^{1/2}$ or more (corresponding to a yield value of 70 Pa or more) on an axis of the one-second power of shear stress thereof.

15. (Currently Amended) The process according to ~~any of claims 1 to 14~~ claim 1, wherein the gasket material has a hardness of 50° or lower as measured by a durometer type-A hardness test according to JIS K 6253.

16. (Currently Amended) The process according to ~~any of claims 1 to 15~~ claim 1, wherein the gasket material contains, as a main component, at least one material selected from the group consisting of urethanes, epoxy-based polymers, silicone, polyisobutylene, hydrogenated polyisobutylene, polybutadiene, hydrogenated polybutadiene, fluorine-containing rubbers and modified products thereof.

17. (Original) The process according to claim 16, wherein the gasket material is an acrylic-modified urethane.

18. (Currently Amended) The process according to ~~any of claims 1 to 17~~ claim 1, wherein the gasket material is cured by irradiating an activation energy ray thereto from an activation energy ray irradiation apparatus.

19. (Original) The process according to claim 18, wherein the activation energy ray irradiation apparatus is an ultraviolet light irradiation apparatus, and an irradiation outlet thereof is moved in association with the extrusion orifice of the three-dimensional automatic coating controlling apparatus.

20. (Original) The process according to claim 19, wherein the irradiation outlet of the ultraviolet light irradiation apparatus is revolved around the extrusion orifice of the three-dimensional automatic coating controlling apparatus by the same angle as an angle of rotation of the extrusion orifice simultaneously therewith.

21. (Currently Amended) A gasket for hard disc equipment produced by the process as claimed in ~~any of claims 1 to 20~~ claim 1, which is applied to a hard disc equipment having a size of less than 3.5 inch (88.9 mm).